technologies, marginal costs of local service, costs and benefits of different types of local services, including the effect of higher access fees on consumer welfare, demand and prices in the cellular telephone industry, and consumer demands for new types of pricing options for long distance service. I have also studied the effects of new entry on competition in paging markets, telecommunications equipment markets, exchange access markets, and interexchange markets and have published a number of papers in academic journals about telecommunications. Lastly, I have also edited two recent books, Future Competition in Telecommunications (Harvard Business School Press, 1989) and Globalization, Technology, and Competition in Telecommunications (Harvard Business School Press, 1993).

4. I have been involved in the cellular industry since 1984. I participated in PacTel's purchase of Communications Industries in 1985 and have provided testimony on previous occasions on cellular competition and regulation to the California PUC, the North Carolina PSC, and the Connecticut PUC. I also previously submitted testimony to the FCC on questions of cellular regulation, including the question of whether cellular companies should be allowed to bundle cellular CPE with cellular service and whether the FCC should forbear from regulation of mobile service providers. During the PCS proceedings I have filed 6 affidavits which considered eligibility questions for LECs, the presence of economies of scale and scope in providing PCS, the design of an appropriate auction framework for PCS spectrum, spectrum. allocation and band size, eligibility for in-region cellular companies, and the appropriate framework for pioneer preferences. I spoke at the FCC Task Force meeting on PCS held on April 11, 1994. I also have done significant academic research in mobile telecommunications and it is one of the primary topics in my graduate course, "Competition in Telecommunications", which I teach each year at MIT.

I. Summary and Conclusions

- 5. I have been asked by Southwestern Bell Corporation to consider questions of equal access and geographic scope of local calling areas for commercial mobile radio services (CMRS) providers which are raised in the FCC NPRM and NOI "In the Matter of Equal Access and Interconnection Obligations Pertaining to Commercial Mobile Radio Services" (CC Docket No. 94-54).
- 6. I conclude that equal access should not be required for cellular service providers. Equal access requirements on BOC cellular providers, caused by the MFJ, currently cost consumers about \$900 million per year and have led to decreased competition among providers of cellular service. A much better policy for the FCC would be to petition the MFJ court to eliminate the current equal access and interLATA restrictions on BOC cellular carriers. This policy change is especially timely given the pending full scale inception of operation by Nextel and the pending FCS broadband auctions.
- 7. Geographical calling areas for extended local service should at a minimum be as large as an MTA. The current LATA boundaries are not based on any realistic economic basis for users of cellular telephone service or of current and future competition among CMRS providers. Consumers would have lower costs of using their cellular telephone and competition would increase with large area calling scopes.
- 8. The proper framework for regulation of cellular telephone is to attempt to encourage high quality service and the lowest price for consumers. This goal is far different from a goal of "protecting" IXCs from having to deal with large buyers who can achieve much lower prices on long distance service than individual cellular customers currently pay. Competition among IXCs to provide cellular long distance service has been almost non-existent with AT&T and the other IXCs engaged in anti-competitive price discrimination against cellular long distance customers. Thus, a requirement of equal access

will not lead to a decrease in cellular long distance rates. Instead, it will likely lead to an increase in cellular long distance rates because of the anti-competitive actions of the IXCs.

II. Market Structure of Cellular and CMRS

- 9. The FCC licensed 2 cellular carriers in each MSA and RSA. The Block B carrier is the wireline carrier; in the large majority of situations this carrier is an equal access cellular provider (EACP), e.g. a BOC cellular provider. The MFJ Court has applied the interLATA restrictions and equal access provisions to the BOC Block B cellular companies. The Block A carrier can be either a non-BOC, e.g. McCaw the largest cellular provider in the U.S., or a BOC which purchased the license subsequent to the original FCC allocation. To date, the non-BOC Block A cellular carriers have not been subject to the equal access and interLATA restrictions, except for AT&T/McCaw, while the Block A BOC cellular carriers have been subject to the restrictions. I will use the term EACP to refer to cellular providers which are currently required to provide equal access -- the BOCs and AT&T/McCaw.
- 10. Nextel is beginning full operation of its ESMR network this year. Thus, increased competition in CMRS will be created by this new entrant. Nextel began operation in Los Angeles in 1993 and plans to begin operation in San Francisco and New York in 1994: "Nextel expects to activate the Digital Mobile networks in San Diego,..., the New York tri-state area, Chicago and Milwaukee sometime later in calendar year 1994...." (Nextel Prospectus, Feb. 11, 1994, p. 4) Nextel has now expanded its plans, and has purchased sufficient ESMR spectrum from Motorola and other companies to be able to offer

Under the recent consent decree to allow its acquisition by AT&T, McCaw has agreed to provide equal access to its cellular customers. GTE cellular companies have not been subject to equal access and interLATA restrictions in contrast to restrictions on GTE landline companies as discussed in para. 8 of the NPRM.

its services to about 70% of the population in the U.S.² Nextel's proposed service areas cover about 180 million people and 47 of the top 50 U.S. SMSAs.

- 11. Nextel has not encountered any difficulty in raising capital to finance these expansion plans. Indeed, the market capitalization of Nextel currently exceeds \$3.0 billion. Nextel recently announced plans to acquire the other two major ESMR providers, Dial Call and OneComm. Dial Call (formerly Dial Page) is constructing an ESMR network throughout the Southeastern U.S. Similarly, Onecomm (formerly Cencall) plans to offer ESMR service throughout the Rocky Mountain Region and the Pacific Northwest. These 3 ESMR companies cover almost the entire U.S. so that Nextel will be able to offer service to over 80% of the U.S. in almost every major MSA, with over 200 million pops in its service area when the acquisitions are completed. Nextel is likely to have a competitive advantage over cellular because of the larger geographical areas covered and the seamless roaming arrangements. No cellular carrier has more than about a 24% share of pops with McCaw having about 63 million pops. Thus, McCaw's coverage is only about 1/3 as large as Nextel. This considerably greater geographical coverage will provide a significant competitive advantage to Nextel's network. Nextel does not plan to provide equal access to its customers.4
- 12. The recent FCC decision to allocate 120 MHz of spectrum for the construction of Personal Communications Service (PCS) networks will also lead to significant new entry by CMRS providers. Interest is very high among potential PCS providers which includes local telephone companies (both in and

 $^{^{2}\,}$ McCaw, the largest cellular carrier, has service areas which cover about 25% of the U.S. population.

³ Nextel recently raised approximately \$700 million in a public debt offering in February 1994.

Indeed, until very recently Nextel expected to provide all long distance service to its customers through a contract with MCI. Nextel's choice of an IXC to provide long distance service is now unclear due to the recent breakup of the Nextel/MCI venture.

outside their regions), local cable TV companies, cellular companies, and many other companies. The recently completed narrowband PCS auction demonstrates the high degree of interest in the provision of new services. PCS broadband auctions are likely to begin by the end of 1994. PCS will begin to provide significant new competition to cellular beginning in 1995 or 1996. A minimum of 3 new 30 MHz band PCS providers will offer service in each geographical area, plus one or more other new providers in the 10 MHz bands.

- 13. PCS already works. In December 1993 when I visited the United Kingdom (UK), I used the PCS network which has been constructed by Mercury in partnership with U.S. West. The second PCS network in the UK, the Orange network operated by Hutchison Telecom, began operation in April 1994. The Orange network already covers 50% of the UK population, and it plans to cover 70% by the end of 1994, and 90% by the end of 1995. Both the Mercury and Orange networks have been successful almost from their inception--about 25% of new mobile activations in the UK in the latest quarter have been on these new networks.
- approximately the same frequency band that much of PCS is scheduled to utilize in the U.S.⁵ The handsets offered, manufactured by Nokia and Motorola, are virtually identical to the smallest cellular handsets available in the U.S. Thus, PCS is convenient to use and offers a wider range of services than are offered by the 2 UK cellular operators. Since PCS began operation in the UK during 1993, cellular prices in the UK have decreased by about 20-33%. Thus, PCS will provide increased competition to cellular. With 2 cellular providers in each market, 1 nationwide ESMR provider, and 4 or more multi-state PCS providers, market competition provides a superior means to "protect" consumers than a regulatory process which will lead to regulatory costs to CMRS

⁵ The frequencies are not exactly the same. However, the frequencies are close enough so that no difference in operation is expected.

providers and actually will decrease competition.

III. IXC's Have Charged Anti-Competitive Prices to EACP Customers

15. BOC cellular customers have been required to buy their cellular long distance service from IXCs because of the MFJ restrictions. Almost all of these customers have purchased their service from the Basket 1 tariff prices from AT&T or virtually identical prices charges by other IXCs. Very few cellular customers (other than large companies) place enough long distance calls to find the various discount programs offered by the IXCs to be economical. The undiscounted prices charged by the IXCs have risen by 9.6% during the latest 12 month reporting period of March 1993-March 1994 well in excess of the CPI or PPI or the 0.4% increase in the price of local residential service over the same period. (FCC, "Trends in Telephone Service", May 1994, p. 8) Furthermore, anti-competitive price discrimination against cellular customers has been exercised by AT&T and the other IXCs. Thus, IXC support for mandatory equal access will afford them the opportunity to engage in anticompetitive actions against all cellular customers and lead to higher long distance prices for all cellular customers while to date, their anticompetitive actions have affected the approximately 70% of cellular customers who subscribe to BOC cellular systems.

A. AT&T has Exercised Market Power for Basket 1 Prices Paid by EACP Customers

16. AT&T's recent actions demonstrate that AT&T has market power which is not constrained effectively by competition in the long distance market. The FCC regulates AT&T as a dominant firm. The FCC's definition of dominance demonstrates a lack of competition: a dominant firm has the ability to exercise market power absent regulation. The usual definition of market

⁶ Regulation is not always effective in stopping the exercise of market power, as the current situation in long distance services demonstrates.

power is the ability to charge prices above the competitive price for a significant amount of time. One important purpose of regulation is to constrain the exercise of market power through either price or profit regulation; thus, the FCC continues to regulate AT&T as a dominant carrier. AT&T has market power for Basket 1 services, i.e. residential and small business services. BOC cellular customers who use AT&T long distance almost always are charged the Basket 1 service prices. In its evaluation of AT&T's performance under price caps, the FCC concluded that services in Baskets 2 and 3 (primarily services for large business customers) were sufficiently competitive to warrant a limited relaxation of then-existing regulation, although the FCC still classifies AT&T as dominant with respect to these services and still regulates them. 1 However, the FCC did not relax its regulation of Basket 1 services, which are used predominantly by cellular long distance customers. Thus, I will focus my analysis on recent events for these Basket 1 services which are the cellular services bought by BOC cellular customers.

17. For Basket 1, the FCC reports that actual prices have been close to the price cap index over the four years following the start of price caps in July 1989. These results are shown in the following table.

In the Matter of Price Cap Performance Review for AT&T, CC Docket No. 92-134, June 24, 1993.

Table A: AT&T's Price Under Price Cap Regulation

	6/30/89	7/1/90	7/1/91	7/1/92	6/30/93
Price Cap Index (PCI)	96.6	94.3	94.1	94.4	94.7
Actual Price Index ⁸	98.4	94.3	93.6	94.3	94.1
Residential Index	98.8	94.5	94.1	94.5	93.6
PCI - 3.39	96.6	94.1	93.8	93.9	94.0
PCI - 4.3	96.6	93.5	92.6	92.2	91.7

Source: FCC, June 24, 1993, Chart 1.

18. Prices at or under the price cap index may be consistent with competition constraining prices if the productivity expected during the price cap period exactly matches the 3 percent target built into the price cap formula. The available evidence indicates that AT&T's actual productivity has been substantially higher than the target. While exceeding the target is a desirable outcome when price caps are necessary to constrain market power, such productivity gains would be reflected in lower prices in competitive markets.

The actual price index apparently exceeded the price cap index on the day before price caps began. Because AT&T is required to be at or under the price cap index, the reduction in actual prices between 1989 and 1990 is the result of regulatory action, not competition.

The following two rows calculate the price cap index if AT&T had the same productivity factor which the FCC uses for LECs in their price cap formulae.

- 19. AT&T's network, in particular the fiber optic transport facilities, continues to benefit from productivity improvements due to technological advancement. Over the past five years, the capacity of installed fiber optic facilities has more than doubled. This technological advance implies annual cost reductions on the order of 13 percent. These cost savings, coupled with the new service opportunities provided by the increased capacity, provide the opportunity for substantial, sustainable productivity gains.
- 20. Subsequent to the FCC's evaluation of price caps, which resulted in the June 23, 1993 report, AT&T's price cap index was increased by over \$200 million, primarily due to the adoption of accrual accounting for other post-retirement benefits (SFAS 106). Effective August 1, AT&T raised its rates for residential services by about one percent and its commercial rates by about 3.9 percent. If competition existed in the Basket 1 long distance market, MCI and Sprint should have constrained AT&T from raising its prices. Instead, MCI and Sprint almost immediately matched AT&T's rate increases. In reporting on this event, the trade-press noted the following:

"Following hard on AT&T's heels, MCI Telecommunications Corp. and Sprint Communications Co. L.P. have proposed across-the-board increases in their interstate rates for business and residential services. Exactly one week after AT&T filed tariff revisions with the FCC raising its business service rates by an average of 3.9% and its residential rates by about 1% overall, Sprint and MCI both filed tariffs on July 23 introducing similar rate increases. A veteran Washington observer said last week that the rate increases 'don't say much for the level and intensity of competition in the interstate services market.'

Asked why MCI appears to be matching AT&T's rate increase, MCI's spokesman said the company 'historically has been competitive in pricing our services relative to AT&T's rates. Despite this increase, our prices remain competitive with AT&T's,' he said. Similarly, Sprint's spokeswoman said: 'We face the same costs and competitive pressures as the rest of the long distance industry, and we routinely adjust our rates to reflect those pressures." 12

P.W. Huber, M.K. Kellogg, and J. Thorne, <u>The Geodesic Network II</u>, 1992, p. 6.25.

^{11 &}lt;u>Telecommunications Reports</u>, July 26, 1993.

Telecommunications Reports, August 2, 1993. Interestingly, Sprint and MCI have raised their prices in response to AT&T's lead, mainly reflecting costs that many sought to deny the LECs the opportunity to recover under their

AT&T announced yet another price increase for Basket 1 services in January 1994 which has lead to even higher prices for BOC cellular customers who mostly purchase Basket 1 long distance services.

- 21. The price increases by AT&T, MCI, and Sprint demonstrate a lack of competition for Basket 1 services. AT&T's price increase demonstrates that price cap regulation, not competition, was constraining AT&T's price. AT&T was able to increase its prices because of the effect of the accounting change on the FCC price cap formula. Thus, the clear implication of AT&T's recent price increases is that AT&T has market power.
- 22. An even more troubling outcome of AT&T's price increase is that MCI and Sprint followed the price increase. MCI and Sprint could have kept their prices at the old level and gained share from AT&T. Instead, they decided it would be more profitable to increase their prices along with AT&T. This "price leadership" behavior is often found in oligopolies which exhibit a low level of competition. Given that the common industry elasticity estimates for interstate long distance service are in the range of 0.5-0.75, AT&T would find it profitable to raise prices if price cap regulation were removed so long as it were confident that MCI and Sprint would follow the price increase. Thus, if AT&T were to raise price by 5% and MCI and Sprint followed, demand would decrease by only about 3.7%. Thus, the price increase would be profitable because revenue would increase by about 1.3% in addition to cost savings of the IXCs in not meeting the 3.7% decrease in demand.

price cap plan.

 $^{^{13}}$ I report the magnitude of elasticities where the negative sign is understood. AT&T employees have reported an interLATA interstate price elasticity estimate of 0.72.

- 23. The situation described above is one of a dominant price leader (AT&T) increasing prices on the basis of a regulatory accounting change, with the price followers (MCI and Sprint) following suit. This behavior does not indicate that AT&T's prices are being constrained by competition. Instead, AT&T's prices are being constrained by price caps. When the regulatory constraint is eased, AT&T's prices rise. Even more troubling, AT&T's two largest competitors immediately followed AT&T's price increase.
 - B. AT&T and other IXCs Price Discriminate Against EACP

 Customers Because of a Lack of Competition for Residential
 and Small Business Long Distance Services
- 24. AT&T and the other IXCs price discriminate against EACP customers. It is well known that a firm cannot anti-competitively price discriminate unless it has market power. (Tirole, <u>The Theory of Industrial Organization</u>, (Cambridge, MIT Press, 1988, pp. 137-139)) Thus, AT&T's and the other IXCs anti-competitive price discrimination against the EACP's customers demonstrates that AT&T has market power.
- 25. AT&T is currently engaged in price discrimination. Price discrimination is defined by economists to be the practice of charging different prices for goods or services which have the same cost, or equivalently, to be charging prices which lead to different margins (price cost) for similar goods or services. AT&T is charging EACP customers (who do not have a special discount plan) the same price for long distance calls as landline MTS long distance calls, despite a significantly lower cost for the cellular calls. Thus, AT&T's margin is significantly higher for long distance calls on cellular which is a "textbook" example of price discrimination.

See e.g. J. Tirole who defines price discrimination as follows: "Hence, we will say that there is no price discrimination if differences in prices between consumers exactly reflect differences in the costs of serving these consumers (this amounts to considering the net cost of serving a consumer)." (J. Tirole, op. cit., pp. 133-134.)

26. AT&T has significantly lower costs for cellular calls than for landline calls because AT&T is not required to pay switched access rates for cellular long distance calls; instead, usually AT&T pays only for transport. 15 I will use Southwestern Bell's interstate switched access rates and transport rates as an example. 16 For all switched interLATA landline calls AT&T is required to pay Southwestern Bell an access fee of about 2.8 cents per minute for both originating and terminating access. These access fees are significant; AT&T has estimated they are about 40%-45% of its total costs. However, when a long distance call originates from a cellular telephone, AT&T is not required to pay Southwestern Bell for switched access; usually only transport is charged for. The amount charged to AT&T for this transport is about 1.0 cent per minute which is a significant cost savings. Thus, AT&T's access costs are 32% lower for a cellular long distance call than for a landline long distance call. 17 On an incremental cost basis, I estimate that AT&T's costs are about 27% less for a cellular long distance call that terminates to a landline phone than a regular landline long distance call. 18 However, AT&T does not reflect this lower cost in its cellular long distance prices. Thus, AT&T is engaged in price discrimination.

The example applies to the other IXCs as well as AT&T.

This example is for Type II Interconnection (via a BOC access tandem switch), which is the most common type of cellular interconnection from the BOC cellular MTSO to the AT&T POP. Type I Interconnection (via a BOC end office) is used only rarely according to Southwestern (and Pacific) Bell personnel. I discuss the other type of cellular access, Direct Connection from the cellular MTSO to the AT&T POP in the following paragraph.

AT&T's cost savings are even greater in some other BOC regions. For instance, in California AT&T's access cost savings are 47% for cellular access compared to landline switched access. Here I am assuming that both calls terminate to a landline phone. If the cellular call terminates at a cellular phone, AT&T's access cost savings are 64% in Southwestern Bell's territory. For cellular to cellular calls in California, AT&T's cost savings is 74%.

¹⁸ Similar cost differences exist for intrastate interLATA cellular long distance calls where AT&T's cost savings due to lower access charges are about 27%-55% compared to landline long distance calls. In these ranges of cost differences I have accounted for other costs which may arise with cellular long distance such as a higher incidence of fraud.

- 27. AT&T's access cost savings for cellular long distance calls is even greater than the calculation in the example. A significant proportion of BOC cellular long distance calls are carried by direct connections from the cellular MTSO to the AT&T POP by e.g. DS-1 (T1.5) service. In this situation the 1.0 cents per minute transport cost is avoided, and a monthly charge for the DS-1 which typically would be about 0.3 to 0.4 cents per minute of cellular long distance traffic would be paid by AT&T. 19 Here AT&T's access costs savings compared to its usual switched access cost is 44%. This cost difference reflects the usual situation that switched access is significantly more costly than special access for long distance calls.
- 28. Price discrimination can be pro-competitive if it leads to an increase in output as I demonstrated in my 1988 Rand Journal article, and as other economists have discussed. 20 Here, however, AT&T's price discrimination leads to lower output because it is charging cellular long distance customers a higher price and is not reducing the long distance price to its landline (Basket 1) customers. Thus, the price discrimination by AT&T is anti-competitive. This anti-competitive price discrimination demonstrates AT&T's ability to use its market power to harm consumers.
- 29. In principle AT&T's competitors, MCI and Sprint, could offer sufficiently lower long distance prices to BOC cellular customers to force AT&T to end its anti-competitive price discrimination. Both MCI and Sprint have the same type of lower costs for cellular long distance customers as does AT&T. However as I discussed above, price competition among AT&T, MCI, and

This calculation is based on a monthly price of a DS-1 of about \$400 per month from Southwestern Bell and a price of about \$300 per month from a competitive access provider (CAP). Despite the significantly lower cost to AT&T, because of the MFJ restrictions all long distance revenues here are remitted to AT&T.

J.A. Hausman and J.K. MacKie-Mason, "Price Discrimination and Patent Policy", Rand Journal of Economics, 19, 1988. For a demonstration that overall quantity must increase for economic welfare to increase see J. Tirole, The Theory of Industrial Organization, (Cambridge, MIT Press, 1988), p. 138.

Sprint for residential and small business users (FCC Basket 1) is quite low. Indeed, both MCI and Sprint have followed each of AT&T's 4 price increases for Basket 1 services (which are residential and small business services) by raising their price by almost exactly the same percentage amounts. Three of these price increases have occurred since July 1993. Thus, MCI and Sprint seem willing to go along with AT&T's price discrimination for cellular long distance. Presumably, MCI and Sprint have decided they can achieve higher profits by going along with AT&T's price increases. The NPRM's tentative conclusion that equal access "creates incentives for the IXCs to compete on the basis of price" (para. 36) is directly contradicted by the experience to date for EACP customers (70% of the total, not including AT&T/McCaw) where no meaningful competition has existed among IXCs for EACP customers' long distance traffic.²¹

30. AT&T's anti-competitive price discrimination against EACP customers affects a large proportion of cellular customers. AT&T's share of presubscribed cellular customers is significantly larger than its share of regular landline customers. The current share of AT&T for presubscribed cellular customers in the 5 largest Southwestern Bell Mobile Systems (SBMS) (Block B) MSAs is:²²

Also the tentative conclusion in para. 42 of the NPRM regarding increased competition in the IXC marketplace is directly contradicted by the experience to date of the 70% of cellular customers who have been required to buy their cellular long distances service from IXCs tariffs which charge supra-competitive and discriminatory prices.

AT&T's price discrimination affects cellular customers served by the BOCs in both Block A and Block B, e.g. both Block A and Block B customers in Boston, Washington, and in many other MSAs where a BOC operates the Block A (non-wireline) system and another BOC operates in the Block B system. Similarly, in St. Louis a BOC operates the Block A cellular system and SBMS operates the Block B system. In these situations, almost all cellular customers are restricted in their choice of long distance service because of the MFJ and are subject to the anti-competitive price discrimination.

Table B: AT&T's Share of Presubscribed Cellular Customers

MSA	AT&T Share
Dallas	77 %
St. Louis	84%
Kansas City	76%
San Antonio	79%
Oklahoma City	88%

Given AT&T's anti-competitive price discrimination, I would expect AT&T's share of cellular customers to be <u>lower</u> than its landline share if MCI and Sprint were truly competing with AT&T for this traffic. Instead, MCI and Sprint have been willing to follow the lead of AT&T and to also price discriminate against the cellular long distance customers.

IV. <u>Removal of the Equal Access and MFJ Restrictions on BOC Cellular Providers Would Lead to Lower Long Distance Prices to Cellular Customers</u>

31. Absent the MFJ restrictions and imposition of an equal access requirement on other cellular carriers, current EACP cellular customers would pay lower long distance prices. The EACP companies would be able to offer lower priced interLATA service since they will be able to buy interLATA service in bulk. The situation would change from the current situation where an EACP customer buys from the undiscounted Basket 1 tariff, say about 16 minutes per month on average, to the situation where the EACP itself would buy from a Tariff 12, or similar contract from another IXC, at much lower prices which it would pass on to its customers. For instance, a BOC would be able to buy long distance service and pay in the range of \$0.04-0.08 per minute which it could then resell to its cellular customers at well below the current average rate of about \$0.15-0.35 per minute which cellular customers currently

pay for their long distance service. 23 Since the EACP itself could purchase long distance service at a discount of about 60% or more from current Basket 1 retail rates, it could offer significantly cheaper cellular long distance rates than its cellular customers currently must pay to IXCs. Thus, contrary to MCI's claims, wholesale competition among IXCs for all of a cellular system's long distance traffic would increase competition and lead to lower long distance rates for cellular customers. 24 (See para. 18 of the NPRM)

32. Previous claims by AT&T and other IXCs that BOC and other cellular customers will face higher prices than they currently do where standard AT&T tariffs (or other IXC offerings) are used is contradicted by both economics and by actual experience. First, the cellular carriers have a clear profit incentive to offer lower long distance prices to their customers. The BOCs or other cellular carriers such as GTE, with the exception of AT&T/McCaw, cannot hope to monopolize or otherwise exercise market power in the interLATA long distance market. In the situation where the downstream market cannot be monopolized, it has long been known that the upstream firm will provide the downstream product at a competitive price to create the highest possible demand for the upstream product. And this behavior is observed in cellular markets where cellular airtime is the upstream product and downstream services such as voice mail are often provided at marginal cost (or even below) to enhance demand for the upstream product.

Thus, I disagree with the tentative conclusion in the NPRM (para. 36) that IXCs would compete more on the basis of price if they offered service to end users, rather than offering service to the mobile carrier. All evidence points to the contrary conclusion, since mobile carriers are large enough buyers to achieve sizeable volume discounts which are never offered to individual EACP customers.

Indeed, in the UK where cable operators have begun to offer telephone service, they buy their long distance service in bulk from a single provider and resell it to their customers. They offer prices about 30% lower than the prices charged for long distance by the two main IXCs, BT and Mercury, to residential customers.

AT&T/McCaw is the exception because AT&T is by far the largest IXC and is currently exercising market power in the cellular long distance market.

- distance service. Instead, they often offer expanded local services across

 LATA boundaries, since they are not constrained by the MFJ. McCaw's service
 in Florida provides a convenient example. McCaw offers continuous coverage on
 the eastern side of Florida with service from the southern tip of the state,
 Key West, beyond Palm Beach and encompassing central Florida. McCaw does not
 charge long distance fees for calls within Florida, but it does charge a
 roaming premium of between \$0.25-0.34 minute depending on which plan is
 subscribed to by the customer. For interstate calls the long distance carrier
 is AT&T, and no choice of long distance carrier is provided to the customer.
- 34. Resellers who use BOC cellular networks to provide service also often do not provide a choice of a long distance carrier. I surveyed cellular resellers in the Los Angeles and San Francisco MSA to find out how often they provided a choice of long distance carriers. Only 48% of the resellers offered a choice of long distance carriers despite the fact that equal access to long distance carriers was provided on the BOC cellular networks. Thus, resellers who use exactly the same physical facilities as the BOC cellular companies with whom they are in competition, find it unnecessary to offer equal access despite the fact that any customer can obtain equal access and identical cellular service by switching to a BOC agent for service. These survey data demonstrate a lack of customer demand for equal access provision of long distance service for their cellular usage. (See para. 25 of the NPRM)
- 35. Absence of customer demand for equal access provision of long distance service is also found in a recent survey done by Bernard Engelhard for SBMS (Study #94-218, August 1994). The survey consisted of a stratified random sample from SBMS customers in nine cellular regions. The overall sample size was 900 individuals. The overwhelming preference of SBMS customers, 72% of the responses, is to have both cellular and long distance service offered by the cellular provider along with the opportunity to have an

expanded local coverage area and a single bill. This absence of customer demand for a separate cellular provider and separate cellular long distance provider is especially striking, given the fact that cellular customers who have a strong preference for a single company providing both services would have already chosen to buy their cellular service from a non-EACP, e.g. in Dallas and San Antonio where McCaw, currently a non-EACP, is the Block A carrier. Thus, the 72% response would be even higher if all cellular customers in the SBMS region had been surveyed. Furthermore 62% of the respondents rated a large calling area as the most important feature of their cellular service while only 7% rated the choice of a long distance company to be most important. Thus, the SBMS survey is consistent with the market action of the resellers—customer do not value the choice of a separate cellular long distance provider, but they would rather have a single bill which includes both local cellular service and long distance service.

- 36. To date non-EACP cellular companies have passed along some of the savings from purchasing their long distance service in bulk from IXCs (usually AT&T), but they have not passed on all of the savings. They have not faced competition from BOC cellular companies on the Block B band because the BOC cellular companies have not been permitted to provide cellular long distance service. However, if the MFJ restrictions were removed from the BOC cellular companies so that they could provide cellular long distance service, competition would increase. Increased competition will cause cellular providers to pass on most of the savings to their cellular customers. Competition, rather than regulation, provides the best method to cause decreased prices for cellular long distance service from the current above competitive prices.
- 37. Two pro-competitive effects would follow from not imposing equal access requirements on cellular providers and from eliminating the equal access and other MFJ restrictions on BOC cellular carriers are: increased

efficiency will occur because higher cost switched access from cellular MTSOs to IXCs' POPs will be replaced by lower cost non-switched access provided by LECs, competitive access providers, or by private facilities. Lower prices to consumers (and another source of increased economic efficiency) will occur because of the lower cost basis of long distance service, lower prices for the long distance component of the service, and increased competition by current EACP and non-EACP cellular companies.

38. I estimate that lower prices to cellular customers will lead to consumer savings in the range of \$750 million to about \$1.1 billion per year with an increase in consumer welfare (taking account of the price elasticity for long distance calls) of between \$1.0-1.4 billion per year. Thus, the cost of the current equal access and MFJ restriction on each EACP cellular customer is between \$50 to \$75 per year. A regulatory system which permitted the EACPs to purchase long distance service in bulk and to resell it to their customers would lead to greater competition and lower prices to consumers. No reason exists to permit the IXCs to continue charging their anti-competitive high prices to EACP cellular customers.

V. THE PROPER GEOGRAPHIC CALLING SCOPES EXTEND WELL BEYOND THE CURRENT LATA BOUNDARIES

39. InterLATA boundaries do not correspond in any rational manner to the actual usage of cellular telephones. In about an hour's drive from my house in a Boston suburb I can go from the eastern Massachusetts LATA to 6 other LATAs--western Massachusetts, Rhode Island, Connecticut, New Hampshire, Maine, and Vermont. Whenever I travel into another nearby LATA and decide to

Indeed, 92% of AT&T's non-EACPs currently use non-switched access for connections to AT&T's network. See the <u>Amicus</u> filing of August 8, 1994 by the Attorney General of California to the MFJ Court. (pp. 21-22)

call home or my office at MIT, I am forced to pay the high cellular long distance prices charged by the IXCs since both cellular carriers in the Boston MSA are EACPs (NYNEX and SBMS). Allowing the EACPs to enlarge their calling scopes so that cellular carriers can offer extended local service to correspond better to cellular customers' usage would lead to lower prices and increased competition.

- 40. I recommend that the minimum appropriate geographical regions for provision of extended local calls, to replace the current system of LATAs, are the MTAs. An EACP (or other cellular company) would be able to offer an expanded calling scope within an MTA at a uniform price; no separate long distance charges would apply. For instance, Nynex could choose to offer a single price service for calls within the Route 495 ring road around Boston as well as southern New Hampshire, Rhode Island, and perhaps southern Maine all of which are within about 1 hour's drive from Boston. While these areas are in 4 different LATAs, they are all within the Boston MTA No. 05.
- 41. The question that arises is whether this extended calling scope would permit an EACP or non-EACP cellular company to extend its market power, under the assumption that the cellular company can exercise market power. 27 The key fact to recognize here is that absent rate regulation of the cellular company, extension of its calling scope will not give it the ability to raise its local prices above their previous levels since these prices were not constrained by regulation. 28 Thus, the concern of evasion of regulation will not apply because regulation is not binding on price. The NPRM's concern that the question of whether to apply equal access depends, in part, upon an

 $^{^{\}mbox{\scriptsize 27}}$ The NPRM raises questions about whether cellular companies can exercise market power.

Note that no state currently uses rate of return regulation on cellular companies. The DOJ's reference to California in its recent submission to the MFJ Court is incorrect in its claims regarding regulation of cellular service in California.

analysis of possible market power of various CMRS providers (para. 31) is incorrect as a matter of economics so long as cellular is not rate of return regulated. Economic theory demonstrates that mandatory equal access will not lead to lower cellular prices even if cellular companies have market power. 29 As I explained above, equal access is more likely to lead to even higher cellular long distance service prices.

- 42. Next, consider the decision of an EACP cellular company on the extent of the local calling scope. I will use Nynex service centered in Boston (the "hub" of the universe) as an example. Currently, Nynex is only permitted to provide cellular calls in the eastern Massachusetts LATA; all other cellular calls are interLATA calls and are carried by an IXC. Every second of interLATA long distance calls on the Nynex network generates an equivalent second of airtime for Nynex, i.e. fixed proportions. Thus, Nynex can set its price to a profit maximizing level taking into account its demand curve which is a combination of demand for local and long distance cellular calls. This same reasoning would apply to all EACPs in determining their calling scopes.
- 43. With an extended geographical area beyond LATAs, Nynex now could choose to extend its calling scope into the adjacent states of Rhode Island, Maine and New Hampshire since they are all in the Boston MTA. Nynex could choose to leave the calling scope as it currently is, but Nynex will decide to increase the calling scope if profits will increase accordingly. Nynex will increase the calling scope up to the point where its increased (marginal) revenue equals its increased (marginal) cost from providing the increased calling scope. Marginal revenue will increase only if customers are offered a lower effective price for their combination of local and long distance calls

This conclusion could change if cellular companies could force IXCs to exit the market and allow them to monopolize the downstream long distance market. Given the small proportion of cellular long distance minutes relative to overall long distance, such at outcome is inconceivable.

so that demand for cellular airtime will increase to Nynex. This increase in demand, which arises from a lower effective price, is pro-competitive and benefits consumers. Furthermore, NYNEX could well be forced to extend its calling scope because of competition from SBMS, the Block A carrier in Boston, if SBMS were permitted to increase its calling scope. Competition is better than regulation at determining consumers' preferences for the appropriate size of calling scopes.

44. Overall, economic theory leads to the conclusion that output would increase and customers would benefit from an increased calling scope for EACPs. Since cellular providers are not rate of return regulated, they will increase their calling scope only if they can increase the demand for cellular calls. This increased demand is equivalent to a lower overall price for cellular customers. Consumers benefit from these lower prices. No opportunity exists for the EACPs to monopolize the downstream market, so no ability to "leverage" upstream market power or "foreclose" downstream competition exists. An increased calling scope will not impede competition, and it will benefit consumers. Furthermore, the results of the 1994 SBMS survey which I discussed above, demonstrate that an expanded calling scope was by far (62%) the feature most desired by SBMS cellular customers.

VI. PRICING EXPERIENCE DEMONSTRATES THAT EACPS WILL PASS ON COST DECREASES TO CONSUMERS

45. Non-MFJ constrained cellular companies offer expanded local calling areas beyond the artificially determined LATA boundaries. Perhaps the best known example is McCaw which offers "City of Florida" service along the eastern part of Florida. Consumers obviously find such a service appealing; otherwise, McCaw would not offer the service. Indeed, McCaw and other non-BOC cellular companies make their expanded local calling areas a major feature of their advertising. McCaw has made the same calculation that an EACP would

make after a waiver were granted and it was able to determine the scope of its local calling areas on the basis of its added revenue and added cost. For Miami for an average monthly use of 160 minutes, the McCaw price is \$95 per month while the BOC cellular provider, Bell South, charges \$94.51 for the same amount of minutes. Thus, market experience has demonstrated that customer demand exists for calling areas which expand beyond LATA boundaries and that consumers have not been charged higher prices.

46. I have examined the pricing experience of BOC cellular companies after they have been granted increases in calling scope. 30 In Table 1 of the Exhibit B the expansion of BOC cellular calling scopes is tabulated. Overall the average increase in calling scope as the result of the waivers has been 24.9%. The percentage price changes, comparing price per minute on a before and after waiver basis, are listed in Table 2. In almost all cases where a waiver was granted, real cellular prices decreased. Prices rose in only a few situations: for example, in the Denver MSA prices increased from \$0.49 per minute to \$0.52 per minute and in Clarksville, TN, prices increased from \$0.25 per minute to \$0.48 per minute. Overall, the average percentage change is -1.33%, but a more informative statistic is probably the median change which is -4.61% per minute.31 Thus, BOC cellular companies have not raised their prices with increases in their calling scopes. If anything, they have lowered their prices or kept them the same. At the same time the cellular long distance rates decreased significantly for cellular customers who previously had to pay both local airtime charges as well as a long distance charge. After the waiver was granted, the latter long distance charge was eliminated.

 $^{^{30}}$ These price data were collected by Information Enterprises and Kagan and Associates for the period 1985-91. A basis of 150 minutes per month is used since this usage was used by Information Enterprises in its reports.

The mean change is affected greatly by the change in Clarksville which is over 5 times as large as any other change in price. This increase occurred because an introductory plan which gave callers 100 minutes of free usage each month was ended at the same time as the waiver was granted. The median is the mid-point of price changes so that 50% of price changes are greater than the median.

Thus, customers received significant price decreases for their long distance calls within the increased calling scope permitted by the waiver. These results of lower prices and expanded calling scopes have benefitted consumers. Thus, the evidence of the benefits of vertical integration requested in para.

41 of the NPRM is demonstrated by these expanded calling scopes and real price decreases.

47. Lastly, in Table 3 I consider the price experience in RSAs where waivers have permitted very large increases in calling scopes in rural areas. In 125 out of the 151 times (83%) where a waiver was granted real cellular prices decreased after the waiver. The average percentage change is -5.70% while the median change is -5.72%. Thus, granting of waivers for RSAs led to constant or lower cellular prices in a large majority of cases. Again, cellular customers in these RSAs benefit from the removal of the long distance charges and the increased calling scope. They also benefitted from the lower prices.

Jerry A. Hausman

Subscribed and sworn to before me this 7th day of September 1994.

Notary Public

My Commission Expires July 3, 1994

My Commission Expires

